

**Abstract**

The selection of which channel to use by a cable modem terminating system (CMTS) is made a function of input supplied by a spectrum analyzer. Note that typically the cable distribution system has coupled to it at the head end not only the CMTS but also  
5 a spectrum analyzer, which has been used in the prior art only for initial establishment and subsequent maintenance of the network, tasks which are performed manually by field technicians. In one embodiment of the invention an interface is established between the CMTS and the spectrum analyzer so that the CMTS and the spectrum analyzer can communicate with each other, and the decision on which channel to use for the upstream  
10 is made by the CMTS based at least in part on information provided by the spectrum analyzer. Alternatively, the CMTS and spectrum analyzer are each interfaced to a spectrum controller which makes the decision of which channel to use for the upstream based at least in part on information provided by the spectrum analyzer. The spectrum controller then instructs the CMTS to carry out its decision.